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ABSTRACT

A course in curriculum design, developed to help education students take a more active role in determining the content of the classes they will be teaching, is described. Since the turn of the century, curriculum design in North America has been dominated by an approach that attempts to maximize the efficiency with which students meet specified objectives. Critics have argued that when knowledge is presented in this manner, it loses its educational integrity and wholeness, and that public knowledge is stressed over personal knowledge. The approach of this course is comprised of five phases: (1) developing curriculum themes, (2) exploring resources, (3) developing learning activities, (4) evaluating pupils' work, and (5) evaluating the unit. This represents a significant change from the technocratic model because it involves not just following a certain procedure but also reflects a way of seeing knowledge children, and the educational process. Student teachers attempting to use this approach have encountered difficulties both because of their own frequent lack of interest in developing curriculum and because of lack of support from the schools where they are doing student teaching. More research is suggested to answer questions about the long-term implications of such courses on teachers' careers. (IS)

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PUTTING EDUCATIONAL CRITICISM INTO PRACTICE:

AN ALTERNATIVE TO TECHNOCRATIC CURRICULUM DESIGN

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PUTTING EDUCATIONAL CRITICISM INTO PRACTICE: AN ALTERNATIVE TO TECHNOCRATIC CURRICULUM DESIGN

Since the turn of the century, curriculum design in North America has been influenced by various educational and social perspectives. As a number of educators have illustrated, a technocratic rationality which promotes the adoption of systems management procedures in the development and implementation of curriculum has tended to dominate the field.[1] This perspective has engendered a number of curriculum trends including: scientific curriculum making,[2] the behavioral objectives movement,[3] competency based education,[4] and computer assisted, individualized learning systems.[5] As Kliebard notes, educational legislation now exists in many parts of the United States that reflects this technocratic perspective, and it has become the semi-official doctrine in federal and state agencies as well as in many educational institutions.[6]

At the same time, numerous educators have criticized this technocratic rationality and procedure as being inadequate for dealing with the moral, epistemological, and pedagogical complexity of educating our children. Early critics included individuals such as John Dewey, William James, Boyd Bode, and William Kilpatrick. More recently, individuals such as Michael Apple, William Pinar, Maxine Greene, Herbert Kliebard, Elliot Eisner and others have made important contributions to the critical analysis of this dominant perspective. In fact, a significant amount of current literature within the curriculum field is devoted to critiques of what Bullough and his colleagues refer to as "technocratic-mindedness." This rationality "is indicated by an uncritical acceptance of the view that only the methods of a narrow conception of science produce genuine knowledge....Hence there is....an exclusive concern with measurement, prediction, control, efficiency, and governance by experts in addressing all human problems."[7]

This critical inquiry has taken two general forms. First, a number of individuals have used various theoretical frameworks to analyze the underlying

assumptions and implications of this technocratic way of thinking. Apple's use of neo-Marxist ideology, Pinar's use of radical psychology, and Greene's use of literary existentialism and phenomenology are a few examples of this theoretical criticism.[8] Other individuals have done extensive research into educational programs based upon technocratic perspectives. Gitlin's study of an "Individually Guided Education (IGE) program, Bullough's research of the "Goal-Based Educational Management System" (GEMS) program, and Carlson's study of an "Individualized Instructional Program" (IIP) exemplify this form of curriculum criticism and inquiry.[9] To many individuals within education, the need for more critical, progressive approaches to curriculum design has been clearly demonstrated.

While these critiques have been useful in generating new ways to think about curriculum design, for the most part, this work has remained analytical. For example, Mazza in her study of the reconceptualist movement states, "(T)he ramifications of using (critical theories) in generating new forms of curriculum practice has not yet been given full attention by the movement."[10] Short also expressed this concern at a recent conference on curriculum theory and practice, "I have long urged better linkage between what (progressive, critical) scholars are doing and what practitioners require; it is still one of our most unstudied problems."[11] The question that arises is: how do we use these criticisms as a basis for alternative practice?

In addressing the above concern, this paper describes an approach to curriculum design that has emerged from a careful synthesis of critiques of technocratic models. The paper is divided into four sections. First, an overview of a technocratic approach to designing curriculum is presented, and second, a comprehensive synthesis of major critiques of this dominant approach is discussed. This analysis provides a context within which the alternative approach is described. The critical approach to curriculum design presented in this paper

has been taught to preservice teachers in a social studies curriculum/methods course during the last four years, and examples from their work are used to illustrate the perspectives upon which this alternative is based. Following this description, the paper explores two problems in having teachers implement this alternative approach in today's schools.

Technocratic Curriculum Design

Curriculum designs, unlike those of engineering and Newtonian physics, are not governed by fixed variables and mathematical formulas, but are largely a matter of social and moral choice.[12] Technocratic curriculum design has evolved from a number of influences including: 1) the social efficiency movement during the early part of this century which promoted the notion of breaking subject matter down into specifically stated, predetermined objectives and establishing systematic, efficient plans to reach those objectives, 2) behavioral psychology which emphasized defining learning in terms of observable behaviors based upon stated objectives, and 3) the accountability movement which stressed the need to quantitatively defined the minimum level of competency each pupil had to obtain before s/he could move on to the next set of objectives. These forces served as the basis for a number of technocratic models that currently dominate the curriculum field. The General Model of Instruction (GMI) developed by Kibler, Barker, and Miles is a representative example.[13]

> The major philosophical premise underlying the model is that the goal of instruction is to maximize the efficiency with which all students achieve specified objectives (quoted emphasis). The model is based on a technology of instruction which has developed in the past several years from research and development work in three areas - experimental psychology, military training, and programmed instruction.

While variations exist, this and other technocratic models of curriculum design follow a similar procedure.

Subject matter is initially analyzed for the purpose of establishing specific objectives (facts and/or skills) that the pupils are expected to master at the end

of instruction. Mager outlines three important factors in establishing objectives. First, they must be specific and observable (e.g., to write, to solve, to identify). Terms such as: to know, to understand, or to appreciate, he suggests are too vague to be useful. Next, the conditions under which pupils will be expected to demonstrate achievement of the objectives need to be stated (e.g., time limits, type of exam). Finally, objectives need to include the criterion that will be used to evaluate the success of the pupils' performance (e.g., 70% correct on the final exam).[14]

Once objectives are correctly stated, instructional plans are implemented to ensure pupils reach these objectives in the most efficient manner possible. Over the years most models seem to have modified psychometric methods of research found in experimental psychology into a pre-test/drillwork/post-test process of instruction. This process is believed to be the most exact in pinpointing what specific objectives individual pupils fail to meet and providing the necessary drills to correct their deficiencies.

Finally, the instructional program is evaluated. "When students complete an instructional unit, they are evaluated to determine whether the instruction was successful in achieving the unit's objectives."[15] In this way initial expectations are matched against outcomes. Pupil performance is the primary criterion for judging the quality of the curriculum and nature of instruction. If pupils fail to reach stated competency levels, then objectives and/or procedures are altered to ensure pupils' adequate performance the next time.

The Critiques

As previously mentioned, numerous books and articles in scholarly journals have insightfully criticized the rationale and procedures of technocratic models of curriculum and instruction. For the purposes of this paper, three areas of criticism will be explored as they relate to issues of curriculum design.

Knowledge

A number of critics suggest that knowledge, as it is presented through technocratic curriculum models, loses much of its educational integrity. Kliebard argues that when a body of knowledge gets reduced its lowest common denominator through the extreme specification of objectives, its significance is greatly reduced. "Educational products (objectives), even if multiplied a millionfold, could only be trivial."[16] From his perspective, technocratic models transform fields of knowledge into objects - something certain, absolute, and consumable. Pupils fill their empty sacks with bits and pieces of information given to them in class. Dewey argued that knowledge should be a catalyst; not the end-product of learning. "Ends arise and function within action. They are not, as current theories too often imply, things lying outside activity at which the latter is directed. They are not ends or termini of action at all. They are terminals of deliberation, and so turning points in activity."[17] From this perspective, knowledge is seen as a stimulus to thoughtful action and reflection. Further, it suggests that "objectives," specific knowledge gained, should arise from within a given activity rather than precede it.

Another criticism of technocratic models is that they tend to stress "public knowledge" over "personal knowledge."[18] Knowledge that has been generally accepted by the society at large and distributed through educational publications is seen as legitimate, whereas the personal knowledge and concerns of the pupils, teachers, and other "non-experts" play a relatively insignificant role in determining curriculum content. Many state legislators and agencies are now determining what pupils will learn in their classrooms, and it is believed that this knowledge should be standardized over a wide cross section of the population. As Macdonald states, when the determination of what is legitimate knowledge is far removed from the actual classroom experience, it "violates the

integrity of the person (pupil) by segmenting his behavior and manipulating him for an end beyond his immediate experiencing in the curriculum."[19] Many technocratic models encourage the use of textbooks, workbooks, independent study packets, and other prepackaged curriculum materials as the primary source of classroom knowledge. As a result, legitimate knowledge becomes a narrow band of information that at best is a small sample of what is possibly worth learning. Critics suggest that this narrowing and standardizing of what can be learned through an overdependence on "public knowledge" greatly restricts the learning process since it fails to take into account the people involved in a given classroom (i.e., the pupils and teacher).

Finally, Clements and his colleagues criticize this specification of objectives because it tends to destroy the holistic nature of knowledge as it exists in the real world.[20] Their view is that one of the most important functions of education is to teach children how to synthesize and integrate information from a variety of areas. Often technocratic models separate each subject into its own compartment which is then taught independently from other content areas. For example, skills such as reading, writing, or speaking are taught as individual subjects, rather than as a means to learn subject matter. As Dewey suggests, without an intellectual context, learning to read (or andy other academic skill) becomes a mechanical exercise devoid of substantive meaning.[21] Nevertheless, in an effort to improve the efficiency by which pupils master designated skills, technocratic models often promote this atomization of subject matter.

Learning and Evaluation

Although within various descriptions of technocratic models there is mention of "higher" levels of thinking abilities, due to the emphasis place on quantitative evaluation of predetermined facts and/or skills; learning, for the most part, becomes a process of memorization. In this sense, the nature of

instruction reflects a closed process of inquiry. Pupils read, memorize, and repeat "correct answers" found in the textbooks and/or workbooks. For example, Edward Thorndike, an early proponent of technocratic/behavioralistic perspectives towards learning, stated, "Instead of trying to teach dullards (the majority of people) to think for themselves, the intellectual leaders must think for them (determine what they should learn), and drill the results, memorized into their synapses."[22]

A number of critics have suggested that these models promote unhealthy attitudes towards the learning process. For example, Postman and Weingartner argue that pupils learn "hidden messages" through this technocratic process of education such as:

1. Passive acceptance is a more desirable response to ideas than active criticism.
2. Discovering knowledge is beyond the power of students and is, in any case, none of their business.
3. One's own ideas and those of one's classmates are inconsequential.
4. Recall is the highest form of intellectual achievement, and the collection of unrelated "facts" is the goal of education.[23]
5. There is always a single, unambiguous "Right Answer" to a question.

Critics suggest that this view of education fails to integrate more substantive, active modes of thought into the instructional process and thus dampens pupils' innate abilities for continued learning. Maslow suggests that an over-emphasis on certainty greatly inhibits an individual's ability to think creatively.[24] Creative, reflective thinking implies, at least to some degree, a search into the unknown. Hence, it requires a tolerance for ambiguity and mystery. As Bullough states, too often within schools, "The subtle, complex, personally selective, often confusing, and sometimes sublime task of coming to know is converted into a linear system of selecting correct responses to a series of multiple choice questions."[25]

Eisner furthers this argument by illustrating how technocratic curriculum models limit the cognitive growth of children by failing to recognize the many

different ways in which individuals learn and the various cognitive abilities that children bring with them to school.[26] He argues that not only do individuals learn through their powers of memorization, but also through their analytic and artistic modes of thought. He suggests that it is through this "artistic" thinking that the cognitive growth of pupils will be fully developed. Like other critics, he rejects the behavioral view of learning and instead sees learning as a process of interaction with knowledge and communication with other individuals. A child "is not simply a passive material that, like moist clay, receives the impress of the empirical world, but is an active agent that selects and organizes aspects of that world for cognition."[27] Eisner feels that without artistic experiences and thinking, children are limited in their ability to act upon and influence the world in which they live.

Finally, a number of educators question the use of quantitative evaluation of pupil performance as the criterion by which education is assessed.[28] Instead, many individuals now promote the notion of aesthetic evaluation that is concerned with the intrinsic nature and quality of children's educational experiences, apart from its utilitarian function for the achievement of goals. In this sense, evaluation should attempt to discover the meaning pupils give to their educational experiences and the social and ethical implications of what pupils learn from these experiences. As a result, evaluation of both pupils and the curriculum in action needs to be more comprehensive than currently found in technocratic models.

Teaching

In an effort to gain greater certainty over what and how pupils learn, many technocratic models come complete with behavioral objectives, step by step procedures, materials, time schedules, and standardized tests for each subject area. From this perspective, teaching is primarily viewed as a problem of

management. Teachers manage their class so the pupils complete their work within a specified time period.[29] Connelly and Ben-Peretz refer to this type of curriculum development and implementation as "teacher proof."[30] Proponents of technocratic models often applaud this instructional role for teachers. As Kibler and his colleagues state, "The changing role of the teacher...to manager of instructional experiences is...an encouraging development."[31]

Critics question the wisdom of this managerial perspective of teaching for a number of reasons. First, as Sarason points out, these instructional programs are developed by people who have no direct knowledge of the pupils in a given class.[32] Since it is the teacher who ideally understands the individuals within his/her class, it seems reasonable that s/he should have a major role in deciding what would stimulate and interest the children and be able to integrate what s/he feels is important with these interests.

A number of educators suggest that this managerial role tends to "deskill" individual teachers.[33] Rather than being craftspeople who develop curriculum based upon their own and/or their pupils' interests and who creatively use materials, personal talents, and innovative resources in planning and implementing learning activities; teachers are becoming educational technicians who merely execute pre-packaged curriculum. As studies by Carlson and Gitlin illustrate, the most recent development in this managerial role has come with the adoption of computer assisted instructional programs.[34] Under these programs, pupils answer workbook questions on computer answer sheets. These sheets are then graded by a computer. After a number of sheets are tabulated, the computer gives the teacher instructions on which drills the pupils need to work on in order to meet "un-mastered" objectives. In these programs, the primary responsibilities of the teacher are to explain directions and objectives to the pupils as outlined in the instructional program, encourage pupils to "keep up" in their "study packets," and

keep track of pupils' records (i.e. paper trail).

Bullough and his colleagues illustrate how this technician's role eventually results in the alienation of creative teachers.[35] By superimposing a curriculum upon both teachers and their pupils, technocratic models cause an estrangement between the individual and his/her own actions. Teachers have little say in either what or how children learn in their classrooms. These models tend to mirror an industrial, factory system of production. In this sense, teachers become middle level managers, pupils become production-line workers, and standardized tests scores become the products. Just as managers and workers in factories are controlled through systematic application of scientific management, the range of possible teaching/learning activities is greatly restricted by these standardized curriculum programs, and as a result, teaching becomes highly repetitive. In this way, both the teacher and the pupils begin to feel apart from rather than a part of the curriculum as it is implemented in a given classroom. This social control and alienation leads eventually to what many refer to as teacher "burn-out."

In summary, by examining the areas of knowledge, instruction and evaluation, and teaching; many individuals have criticized technocratic models of curriculum design for their lack of intellectual and educational integrity, dehumanization of wo/man's spirit, and reinforcement of unhealthy educational attitudes and practice. These and other criticisms have caused many within the curriculum field to reconsider the value of these technocratic models. However, there is the danger that these critiques will be seen as merely interesting analytical points of view without any real application to classroom life. While these criticisms are somewhat diverse, it is possible to derive a coherent set of perspectives upon which alternative approaches to curriculum design can be implemented. In the next section of the paper, one such approach will be described in an effort to

illuminate the relationship between educational criticism and classroom practice.

Curriculum Development and Implementation: A Critical Perspective

Developing curriculum reflects more than just following a given procedure (see p. 3). The concept of "perspectives" more accurately illustrates the uniqueness of one approach versus another. Becker and his colleagues define perspectives as "a coordinated set of ideas and actions a person uses in dealing with some problematic situation."[36] Unlike more abstract constructs such as belief systems, principles, or values; perspectives have reference to particular situations and include an individual's actions rather than just his/her disposition to act. When applied to approaches to curriculum development and implementation, perspectives refer to areas of concern such as: the definition of knowledge, quality of learning experiences, the nature of instruction and evaluation, and the role of the teacher. In describing this alternative approach, it is important to illuminate the perspectives that have emerged from the preceding critiques of technocratic curriculum design.

As previously mentioned, this critical approach has been taught to preservice teachers in a social studies curriculum/methods course during the last four years; most recently at Washburn University in Topeka, Kansas. Examples from preservice teachers' curriculum development/implementation projects is cited to illustrate the perspectives upon which this alternative approach is based (see p. 14). In addition, representative excerpts from class records (kept by the instructor/author) and course evaluations (filled out by preservice teachers at the end of the semester) will be used to further illustrate the lived experience of this approach.

The Course

"Social Studies in the Elementary/Middle School" is one of four integrated components of a "block" preservice teachers take the semester prior to their full

time student teaching experience. The other three components of the "block" include: 1) "Creative Experiences in the Classroom" which exposes preservice teachers to the cognitive principles, resources, and methods of integrating music, art, and creative dramatics into the study of subject matter, 2) a supervised, nine week practicum experience in which preservice teachers work in a regular elementary and/or middle school classroom for three afternoons each week, and 3) a weekly seminar meeting which helps preservice teachers integrate knowledge gained from the other components of the "block" and reflect upon underlying issues of educational practice as related to their practicum experience.

The course, itself, contains five sections. The first is designed to help preservice teachers examine basic questions of education. Adapting Pinar and Grumet's four step method of "currere,"[37] preservice teachers re-examine their past experiences in schools (with particular attention to their social studies classes). The next step has these individuals project what social studies and education in general might or could potentially become in the future. The third step asks these people to examine the present situation in the schools and then compare these three "pictures" for similarities, differences, and common themes among them. During this step, a number of analytical frameworks (historical, psychological, political, social) are employed through class readings. Questions such as: "What is the purpose of education?" "What knowledge and intellectual abilities are worth teaching and learning in schools?" "Who should (does) control and develop the curriculum used in a given classroom?" "What is the 'hidden curriculum,' and how does it affect children?" are typically addressed during these steps. The final step asks these preservice teachers to synthesize their own knowledge with the ideas gathered from the readings and other members of the class. This first section lays the groundwork for the rest of the course in that most preservice teachers accept the view that alternatives to technocratic models

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of curriculum design are clearly needed or are at least worthy of consideration.

The second section of the course introduces the class to the curriculum approach described later in this paper. The class goes through a number of exercises that illuminate the different phases of this critical approach. The last three sections of the course expose these individuals to various resources for and methods of teaching history, sociology (social issues), and anthropology within the elementary/middle school classroom. In addition, substantive questions are explored as they relate to each of the above mentioned subject areas. For example, during the section on history the class is asked to explore whose history we have traditionally taught in schools and why. During the section on anthropology, the class examines issues of ethnocentrism and cross cultural oppression.

The central assignment of the course is for preservice teachers to develop and implement (in their practicum site) an original social studies unit based upon their own and/or their pupils' intellectual interests. There is an effort to relate ideas from the two courses within the "block" as class members learn to integrate the knowledge gained from the "Creative Experiences in the Classroom" course into their unit of study. Similar to the work of Ben-Peretz and her colleagues, this course advocates the empowerment of teachers as curriculum developers.[39] From this perspective, teachers take an active role in determining what should be taught in a given classroom, and how it should be taught.[40] Rather than seeing teachers as merely managers of predetermined instructional programs, this course presents the view that teachers should be the creative force behind the materials, resources, and activities needed to stimulate learning among a given group of children. By planning and teaching this unit of study based upon the approach described below, these preservice teachers put into practice this dynamic concept.

The Approach

It is important to note that in describing this critical approach to developing and implementing curriculum a somewhat false dichotomy is created. Certainly, curriculum design cannot be easily divided into technocratic and non-technocratic models - each with their own mutually exclusive methods and procedures. Some potential similarities and overlap between these two approaches will no doubt be seen. However, when taken in its entirety, there are significant differences in both the way the educational process is viewed as well as in the activity of those who use this approach in classroom situations.

As previously mentioned, the role of the teacher from technician/manager to creator of the curriculum represents one such difference. The process of designing curriculum marks another important distinction. Technocratic models are primarily linear and sequential. First, behavioral objectives are selected, second, materials and activities are chosen, and last, this process is evaluated, based upon pupil performance. In contrast, similar to what McCutcheon discovered in her study of curriculum planning, this course supports the perspective that curriculum development involves the complex, simultaneous juggling of many different considerations: past experiences of the teacher and pupils; subject matter; goals; teacher's and pupils' personalities, interests, and talents; materials and resources available; and on-going feedback as the unit progresses. For the purpose of analysis, the phases of designing curriculum that are taught to the preservice teachers in this course will be presented separately, and in numbering each phase a locked sequence may be inferred. However, it is important to emphasize that in the actual process of creating their units these phases overlap, are worked on simultaneously, and do not follow a hard, fast order. Most preservice teachers work on all of the phases to some degree before completing any one of them.

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Phase #1: Developing Curriculum Themes

As creators of curriculum, preservice teachers must first choose a topic of study. In preparation for this work, they are asked to reflect upon their own intellectual interests and upon what knowledge is worth exploring with the pupils in their practicum sites. They are asked not only to consider what skills and talents are necessary for adulthood, but also what topics would enrich the children's lives.[42]

As the title of this phase suggests, units are developed around broad issues, concepts, and/or themes. Knowledge is seen as a catalyst for stimulating and/or satiating a child's curiosity. Essential characteristics of knowledge are its ambiguity and constant change. Rather than emphasizing objectives (e.g., facts, skills, and "right answers"); themes contain questions, theories, and mysteries, as well as specific information. For example, instead of emphasizing the names, dates, and places associated with European explorers, one preservice teacher's fifth grade unit studied the topic of exploration. Pupils investigated what characteristics are found in explorers, why individuals seek new horizons, and the diverse focus for exploration (e.g., one's self, a field of knowledge, new landscapes, life). In addition to learning about European explorers, pupils discovered that many individuals have explored the unknown, including Native Americans, scholars, and themselves. While the pupils acquired specific information, the emphasis was on their investigation into the above themes.

Once a topic has been chosen, preservice teachers construct web diagrams to develop the topic's themes.[43] For example, the first draft of a web for a unit on the traditional Ashanti culture of West Africa illustrates the possibilities that can arise from a single idea.

insert figure #1

After a topic is fully developed, preservice teachers often reduce the number of

themes to be studied taking into consideration the knowledge base and interests of themselves and their pupils, the amount of time they have to teach their unit, and the resources available. Depending upon the individuals involved and the situation, not all units on the same topic contain the same themes. Rather than standardizing the curriculum, this course emphasizes the need for curriculum to respond to the uniqueness of the specific learning milieu in which the preservice teachers are placed.[44]

An important epistemological implication of developing curriculum themes through the use of webbing is that it demonstrates the interconnection and holistic nature of knowledge. Preservice teachers learn to integrate traditionally separated subject areas. For example, units on ecology often combined social studies and science. Pupils would explore the science of the life cycle along with the social issues of pollution, energy use, and conservation. Skills such as reading and writing were not taught as segregated subjects, but were integrated into the study of content. Many preservice teachers developed a literary/individualized reading program as part of their units.[45] Classroom libraries were established that reflected the themes being studied. For example, in a unit entitled, People's Changing Roles, pupils read children's literature that explored the woman's suffrage movement; portrayed men/boys as sensitive and nurturing and women/girls as dare-devilish, determined, and active; and pictured boys and girls who were close friends. By having children use literature to study social topics, they not only learned to read, but just as importantly they read to learn.

Phase II: Exploring Resources

The second phase in designing curriculum involves the exploration of resources. There are two types of resources that must be investigated. The first is adult resources that increase the preservice teacher's knowledge on a

particular subject. For example, one individual researched the psychological principles of transactional analysis in preparation for a seventh grade unit entitled, Human Beings: What Makes Us Tick? For a sixth grade unit on the U.S.S.R., the preservice teacher read some of the writings of Marx, Lenin, and Trotsky. Individuals often summarized what they discovered to their pupils as one of the unit's learning activities (see Phase III).

Preservice teachers must also discover resources that their pupils can use to explore the themes of a given unit. Instead of viewing textbooks and other pre-packaged curriculum programs as infallible and exclusive sources of knowledge, this course emphasizes that knowledge emerges from many different spheres of life: people, art, legends, nature - the list is endless. A major focus of this course is to expose preservice teachers to a wide variety of potential resources that can be used in the study of content. More importantly, they learn the art of discovering their own resources as they participated in their daily life activities.

In developing their units, preservice teachers do not use textbooks materials as the primary source of classroom knowledge. Many units used local community resources. For example, a fifth grade unit entitled, The Nifty Fifties, had pupils explore what life was like during this period of history within the U.S. to determine how "nifty" it really was. In this unit, parents and grandparents became a major source of knowledge through interviews and questionnaires. 1950's magazines, comic books (from a local dealer who also spoke to the class), music (from parents' record collections and a history of rock and roll program played weekly on a local radio station), and television shows (played weekly on public T.V.), and a film of the Army-McCarthy hearings were some of the other sources used in this unit. In using various resources, preservice teachers are encouraged to present knowledge as tentative, open to questioning, and tied to its source

(i.e., according to this document, picture, author, etc.); thereby reducing the mystifying authority that external knowledge often has over children.

In developing curriculum materials, the personal knowledge of pupils is also considered a legitimate resource. Too often the knowledge base that children bring with them to school is ignored. In contrast, most preservice teachers involved their pupils in developing the themes for their units. They often did webbings with their pupils as part of their unit's introductory lesson in which they specifically drew upon their pupils' knowledge and/or interests. Some individuals chose topics that capitalized primarily upon what their pupils knew. For example, one preservice teacher was placed in a fourth grade classroom with children from many different cultural backgrounds. In this unit, Americans: Who Are We?, pupils researched and shared their ethnic traditions, customs, and beliefs with other members of the class.

The use of various resources in teaching children about a given topic cannot be overstressed. As Cullum states, "By exposing children to the excitement and greatness of literature, art, history, geography, and science a passion for learning will develop."[47] Education should encourage children to explore the unknown and mysterious, as well as take pride in what they already know. Perhaps the most important aspect of this approach to designing curriculum is for teachers to develop the ability to seek out innovative, stimulating resources from which children can learn.

Phase III: Developing Learning Activities

After increasing one's knowledge base on a topic and gathering potential resources, preservice teachers develop and organize learning activities for their units. In this effort, there are two primary goals. First, learning activities should illuminate the themes of the unit, and second, they should promote reflective inquiry. Reflective inquiry is different from either closed inquiry as

previously described in this paper (see p. 6) or open inquiry. Open inquiry implies no predeterminism of content or procedure, and it reflects the activity of individuals who are exploring knowledge at the "cutting edge" of their field. Reflective inquiry rests somewhere between these two extremes. Rather than basing instructional activities on specific predetermined knowledge and behavior, reflective inquiry promotes the notion of "soft determinism." The teacher, as leader of the class, has educational aims and knows the direction that the unit will take (as reflected in its themes), but not necessarily every detail that the pupils will learn from a given activity and/or resource. Eisner refers to this form of goal setting as "expressive outcomes," and it implies a search into the unknown within broadly defined thematic boundaries.[48] For example, a number of preservice teachers had pupils explore, through a variety of activities, the relationship between the literature in their class libraries and the themes in their units. Exactly what individuals were expected to learn from this literature was not predetermined, but emerged from the activities and books read.

Contrary to passive drilling and testing for memorization, reflective inquiry suggests that learning is dynamic and active. At various times pupils can learn more from reading and writing; at other times from discussions, art work, visual or audio stimulation, and/or working with concrete materials. In planning their units, preservice teachers diversify their activities in an effort to capitalize on different modes of learning and thinking. As previously mentioned, each preservice teacher integrated some music, art, and/or creative dramatics activities into their unit. These activities were used to either study the content of their topic and/or serve as a means by which pupils could express their ideas. In many units, pupils did not necessarily participate in the same activities, read the same books, or complete the same assignments. Often pupils chose from a list of possible projects in which to get involved. More

significantly, a number of preservice teachers encouraged pupils to develop their own projects and activities. For example, in a unit on European immigration, the pupils created role plays to portray various aspects of: life in Europe, the boat trip over, and early experiences upon arrival. Two pupils who were interested in clothes and sewing developed their own project by making costumes for the plays. They researched old photographs for the styles and types of clothing worn and got help in designing from the school's home economics teacher. Connelly suggests that instruction should help pupils take responsibility for their learning.[49] This notion is a central concept promoted in this course.

It is important to stress that just getting pupils "involved" or having "hands on" experience is not enough. Dewey makes it clear that to be educative, experiences must stimulate and challenge a child's mind.[50] The primary purpose of developing learning activities is to encourage pupils to use their powers of imagination, speculation, intuition, and analysis as they study subject matter. Preservice teachers are urged to ask themselves, "What do I want pupils to be thinking about as a result of this activity?" For example, in a sixth grade unit on the Civil War the thematic focus was on being: a slave, a slave owner, and a common soldier from the North and South. The class explored why individuals fought in this war, what it was like for the people who lived through it, and what was gained and lost at its conclusion. The unit's resources and activities were oriented towards helping pupils understand that there are no simple answers to questions of war and peace, right and wrong, and/or justice and injustice. When pupils conduct research and write reports, it is not enough to simply give an opinion. While personal knowledge is important, this knowledge should be grounded in reason and intuitive insight that is obtained from exploring other sources and ideas.[51] As Matthews concisely illustrates in his book, Philosophy and the Young Child, even small children have the hermenutic ability to confront substantive

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questions. This level of intellectual involvement is one of the primary goals of the preservice teachers' work in the development of their units.

Finally, although objectives are not specifically predetermined and stated in behavioral terms, one should not assume that instruction becomes aimless. On the contrary, to help in the planning of their units, preservice teachers are encouraged to place their ideas into two categories: teacher activities and pupil activities. Teacher activities are those for which the teacher assumes primary responsibility for producing (e.g., planning a field trip, leading a discussion, telling a folktale). Pupil activities often involve reading, writing, and/or speaking. However, as previously mentioned, these activities are not considered more important than art, music, or other forms of expression. Using the notions of soft determinism and reflective inquiry, preservice teachers organize their units' activities into three sections:

The Introduction	These activities introduce pupils to and stimulate interest in the topic of study. Introductory activities also solicit pupils' previous knowledge about a given topic.
The Body	These activities are organized into a series of lessons (or learning centers) that illuminate the themes of a given topic and stimulate the children's thinking.
The Conclusion	These activities summarize the main points of the unit. Concluding activities also give the pupils a chance to appreciate and share what they have learned and produced.

This organization is important. Without a beginning, middle, and end to a given unit of study, instruction becomes an endless series of tasks that eventually grinds down the children's spirit and interest in learning. However, the structure of a unit must remain flexible. Preservice teachers often altered the initial organization of their unit's themes and/or activities depending upon what happened in their placement, what resources became available, and what interests the pupils developed as the topic was studied. In developing units of study, this approach to curriculum design requires careful research, thoughtful planning,

flexibility, and a willingness to actively guide pupils in their search for knowledge.

Phase IV: Evaluation of Pupils

Perhaps the most difficult aspect of using this critical approach to curriculum design is that preservice teachers must find alternative methods of evaluating pupils' work. Rather than relying heavily upon quantitative measures (e.g., workbooks, worksheets, and/or tests of memorization), learning activities such as informal reading and discussions, art work, or research projects require more comprehensive evaluation procedures. While an occasional test or worksheet is appropriate, quantitative proof of learning is usually not emphasized. However, one important role of the teacher is to discover what pupils are learning as they participate in a unit's activities. Through observation of and dialogue with their pupils (in this manner pupils are involved in the evaluation process) and careful examination of their pupils' work, preservice teachers made substantive assessments regarding the quality of their children's efforts. There are numerous methods for subjective, interactive evaluation.[53] Many preservice teachers kept a file folder on each of their pupils. After an activity or at the end of the day, the preservice teacher would write his/her assessments of the children's work. Entries often addressed work completed by the pupils or at times just an observation of an individual child as s/he interacted within a given activity. One representative example stated,

> Noticed Bill was looking at the bulletin board (on the history of farming in the state) this afternoon. This is the first time he has shown some independent interest in school work since I started the practicum. I'll have to remember to find out his reaction tomorrow and try to get a sense of what he got out of it. (excerpt from Joan's folders)

If nothing was added to a given child's folder for a few days, the preservice teacher would give careful attention to that child's work the next day, thus maintaining individual attention. Although assessments are not quantitative, by

keeping systematic, written records, pupil evaluation is given careful attention and is comprehensive.

Phase V: Evaluation of the Unit

The final phase in designing curriculum involves the evaluation of the unit. Rather than focusing solely on whether pupils meet prespecified performance objectives, the evaluation of a unit's content and activities should include its ability to reflect sound educational principles. In evaluating their units, preservice teachers are encouraged to ask themselves: What conception(s) of knowledge is presented to the children? What type(s) of learning are emphasized through the unit's activities? How do the pupils respond to the unit? How do you, the teacher, respond to the unit? Preservice teachers are asked to consider these questions in light of their own common sense, beliefs, and experiences. Rather than waiting until the end of a unit to evaluate it, preservice teachers evaluate their units on a weekly basis during their seminar meetings. In this way, they recognize the value of on-going feedback and reflection.

In addition to carefully evaluating the educational significance of their units, preservice teachers are also encouraged to consider the social and ethical implications of what they teach. Many educators suggest that there is no such thing as "value free" or neutral education. Preservice teachers are asked to critically analyze the social values, beliefs, and attitudes embedded in the content of their units.

This critical awareness was manifested in a number of ways. As some educators have illustrated, children's literature, textbooks, and other resources may reinforce unhealthy social perceptions and attitudes among children if not critically examined (e.g., sexism, racism, classism).[54] Through class discussions and individual conferences, most preservice teachers became sensitive to these issues and raised them with their pupils when using materials that reflected

prejudicial perspectives. Units on non-industrial cultures or minority cultures within the United States often raised issues of cross cultural conflict and/or ethnocentrism with their pupils. Preservice teachers who developed historical units made efforts to emphasize the role that all people play in the creation of history, rather than overemphasizing the role of famous white men. A number of individuals developed units on contemporary social, political issues such as ecology, human rights, and nuclear arms. Others integrated social issues into more traditional units. For example, a third grade unit on "careers" included themes such as the role of women in the workforce, the notion of class conflict, and the problems individuals face when unemployed. These units exposed children to many viewpoints on a given issue, and encouraged their participation in society. As Apple implies, preservice teachers are encouraged to view conflict as a central concern in the study of social life.[55] The criteria for evaluating units needs to address not only the quality of pupils' work, but also the type of educational experiences that children are asked to participate in and the social implications of the unit's content.

Summary

As previously mentioned (see p. 14), it is difficult to clearly divide the methods and procedures of technocratic and critical approaches to curriculum design into two mutually exclusive categories. On the surface, the five phases of: 1) developing curriculum themes, 2) exploring resources, 3) developing learning activities, 4) evaluating pupils' work, and 5) evaluating the unit may have some similarities to technocratic models. However, as the chart below illustrates, the perspectives (integration of beliefs and actions) that are fostered through this critical approach represent a significant shift away from the technocratic models that tend to be dominant in our schools.

insert table #1

It is important to emphasize that the art of developing curriculum from a critical perspective involves more than just following a certain procedure. In reality, it reflects a way of seeing the world of knowledge, children, and the educational process.

Problems of Implementation

Critiques of technocratic curriculum design have been helpful in laying the groundwork for the development of alternative approaches. In teaching the approach described in this paper to preservice teachers, a few problems have emerged that have implications for its future implementation in classrooms. Two of these constraints will be briefly considered along with suggestions for minimizing their negative impact.

First, as mentioned at the beginning of this paper, a technocratic approach to curriculum design has dominated the schools for most of this century. In light of the present accountability, testing, and competency based movement, this trend has continued to gain momentum.[56] In an effort to increase nationally standardized test scores, school systems often insist that teachers use prepackaged curriculum programs. There seems to be little administrative support for teachers to develop curriculum based upon their's and/or their pupils' interests.[57] Even when this support does exist, the bureaucratic nature of schools makes it difficult for autonomous thinking teachers.[58]

While general educational and social support for technocratic curriculum design makes it difficult to implement genuine alternatives, it is not impossible. There are teachers who reject this technocratic mentality and who, to some degree, resist efforts to limit their autonomy.[59] However, the constraints mentioned above do add another dimension to teaching preservice teachers this critical approach to designing curriculum. It is not enough to only teach these individuals <u>how</u> to develop curriculum. Since new ideas often have to be

justified, it would be difficult for teachers to propose alternatives to the dominant approach without a theoretical understanding of alternative perspectives. As part of their course work, preservice teachers write term papers in which they create an approach to social studies curriculum design. First, they title their approach which reflects its general focus. Some recent titles have been: "An Active Learning Approach," An Integrative Approach," and "A Multi-Perceptual Approach." More important than any given title, in this paper, preservice teacher describe the essential characteristics and educational perspectives of their approach, develop a social and/or educational rationale for using this approach in the schools, and finally, describe their unit as an example of this approach in practice. Throughout the paper, readings from this and other courses are used to support their ideas. During the last few days of the course, preservice teachers present their approach and unit to the rest of the class, thus helping them learn how to articulate their ideas. As the following excerpt illustrates, this assignment helps these individuals see that they can contribute fresh ideas to the field of education.

> (A)t times I was overwhelmed and lost due to the amount of material covered in this class. But the paper and presentation really pulled things together for me. Developing my approach helped me begin to develop a philosophy of teaching and to back my ideas up with reasons. The paper was difficult but worthwhile in that I now feel I can contribute some of my own ideas to the field of education especially concerning the relationship between theory and practice. (excerpt from preservice teacher's course evaluation).

A few students recently presented their papers at the 1984 Kansas Council for the Social Studies meeting in an effort to more fully develop their reflective and expressive abilities. Without being able to articulate and connection between educational criticism and practice, this approach would simply be another mechanical exercise.

In addition to becoming more theoretically grounded, preservice teachers are asked to consider the importance of being change agents in the schools. During

seminar meetings preservice teachers are exposed to issues concerning the "politics of teaching." They consider the problems of initiating substantive change within a given set of constraints in a way that doesn't needlessly alienate administrators, other staff, and/or parents. Planning for short-term and long-term changes, developing a support system among other progressive individuals within the school and community, writing proposals for curriculum change, and presenting ideas for curriculum at local and state conferences are some of the strategies preservice teachers take into consideration.

Most individuals got to practice some of these strategies in their field placements. While a few individuals were given the freedom to teach anything they wanted, most preservice teachers had to negotiate with their cooperating teacher in order to teach their units. With support from the university supervisor, preservice teachers overcame their initial fears of the school's authority and negotiated some freedom within the practicum's constraints.

> The most important thing I learned from this (practicum) experience is to assert myself and to ask questions to see if I could try things. I'm the kind of person who has real difficulty in confronting authority figures, but with your (the supervisor's) help, I've overcome a lot of my fears. (excerpt from preservice teacher's field experience evaluation)

Some preservice teachers negotiated for time. While they taught the regular curriculum, they were given a certain amount of time each day to teach their units. Others were told they had to follow the school's curriculum guide, but were able to negotiate permission to significantly alter what this guideline requested. For example, many had to teach a unit on state history, but beyond this directive they negotiated the freedom to develop their own content, materials, and activities. In this manner, preservice teachers got practical experience, to some degree, at being change agents in their practicum sites.

The second problem concerns the preservice teachers' relationship to content. As Buchmann and others point out, elementary education majors often come

into the teaching profession with little concern for subject matter or a desire to develop their own curriculum.[61] Most preservice teachers, it seems, view teaching primarily as an interpersonal affair. They want to teach because they like children; not because they are interested in knowledge or the dynamics of learning.[62]

This lack of interest in content and curriculum design created a number of concerns that needed to be addressed. During class discussions, many preservice teachers admitted feeling ignorant. They felt that despite their class standing as juniors or seniors in college, they didn't know anything worth teaching children. Since many felt that teachers should always be able to provide the "right answer," in previous practicum experiences they had become dependent upon textbook materials and instruction manuals. Most preservice teachers did not have much trust in their own intellectual abilities.

> Today we talked about why so many students (preservice teachers) still feel "dumb" in spite of all their education. Most students felt it was because they were never given credit for what they knew in school but were always trying to find the "right answer" as defined by the teacher and/or textbook. In addition, many said that most classes right up through college just asked them to recite information that others said they should know instead of building upon the knowledge they already had. As a result, they said their educational experiences had taught them not to put much faith in their own powers to learn and know what's important. As one student said, "It always seems that, in school, it's what you don't know that's seen as valuable not what you do know." One student said this need for always having the right answer goes on outside of the school. She pointed out, "Look what happened to Carter when he said he didn't always have the answer. People thought he was weak and ineffective." (excerpt from class notes - 8/26/83)

By challenging these educational experiences and self-perceptions, preservice teachers gained confidence in their knowledge base. More importantly, as they worked on their units, they developed self-assurance in their ability to research new subject areas. At first, most preservice teachers knew little about the topic for their unit, and research was often necessary in the development of the unit's themes. At the end of the course, many evaluations expressed satisfaction not

only from working with children, but also from learning about their topics. As the excerpt below exemplifies, most preservice teachers seemed to have gained a new appreciation for the world knowledge.

> The most exciting concept I got from this course was that my students and I have the power to "create knowledge." I no longer feel that I, as a teacher, have to know everything before I teach it to kids. I now realize that we can learn about stuff together. I feel that I could teach just about any (social studies) topic to kids because now I know how to research and find resources for us to learn from. (excerpt from preservice teacher's course evaluation)

This increased confidence and appreciation did not come easily. In addition to class discussions, it was necessary to work with each individual at least once (and up to four times) to help them get started, share ideas and resources, and provide support and encouragement.

It is important to note that not all students valued the focus of this course. Developing units in this course is much like producing a documentary or writing an article on a given topic. That is, it requires interest in the subject matter, motivation and skill to research relevant information, energy to discover innovative sources, and the ability to organize the findings of this work into a challenging form that children can understand and enjoy. Each semester there have been a couple of preservice teachers who only marginally completed their unit and term paper assignments due to a lack of interest, motivation, and/or intellectual capability.

> I didn't do very well this semester because I thought it (the course) was basically worthless. As teachers, we are going to be expected to teach out of a textbook. Instead of wasting our time developing units, I think you should teach us the best way to use these textbooks. (excerpt from preservice teacher's course evaluation)

The preservice teachers who verbally expressed the greatest satisfaction with this course were curious individuals who enjoyed exploring knowledge found in the world around us. These individuals thrived on the autonomy that was given to them in developing their units, they liked the challenge of implementing interesting

learning experiences for children, and they saw their ability to design unique curriculum as essentially a creative endeavor.

Clearly, this course did not result in preservice teachers calling for the complete transformation of schools and society. However, the course did help many individuals look critically at the process and underlying values of educating children, realistic alternatives to developing and implementing curriculum, and their role(s) as future teachers. Given the retrenchment mentality that now dominates education, we believe this accomplishment is noteworthy.

Conclusion

Although the potential benefits of this course seem to be significant; this conclusion is still tentative since it is based upon preservice teachers' units, their written term papers, and their course evaluations at the end of each semester. There are a number of questions that need to be more fully explored. First, in what way does this course actually influence the educational perspectives of preservice teachers? To what degree do they develop a commitment to alternative practice in the schools? Second, does this course have any lasting effect upon those who develop this commitment? For example, are these committed individuals able to continue in their role as curriculum developers once they become inservice teachers? Once they obtain positions, does the school structure hinder or facilitate this continued effort among these individuals? Is there time during the school year for them, as inservice teachers, to develop units of study based upon their own and/or their pupils' interests? In an effort to gain insight into these questions, longitudinal research is needed. Using field based methodologies, this research should examine what actually happens to these preservice teachers as they develop and implement their units within a given practicum site. In addition, it would be helpful to follow a given sample group into their student teaching experience and first year of teaching. By

investigating preservice teachers' perspectives and what forces influence these perspectives over a significant amount of time, insights can be gained that will help us improve the potential impact of our efforts.

Perhaps it is unrealistic to expect substantive alternatives to traditional curriculum design on a large scale until our society as a whole begins to question the value of institutions and programs based upon a technocratic rationality. Clearly, more than the good intentions of a few individuals and the existence of viable alternatives are needed to change school practices.[63] What happens in this course hardly constitutes a panacea for the ills found within teacher preparation or schools in general. The relationship between school practice and the sociocultural context within which it exists is complex, and no one strategy can be expected to fundamentally alter the present system. However, in spite of the potential problems in implementing this or other critical approaches to curriculum design, on a small scale, the work of these preservice teachers over the last few years has made a convincing argument for the possibility of real, concrete alternatives. In order to continue this important work, more reports are needed that describe these alternatives in either professional preparation programs or the public schools.

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Figure #1
Initial Web of Ashanti Culture

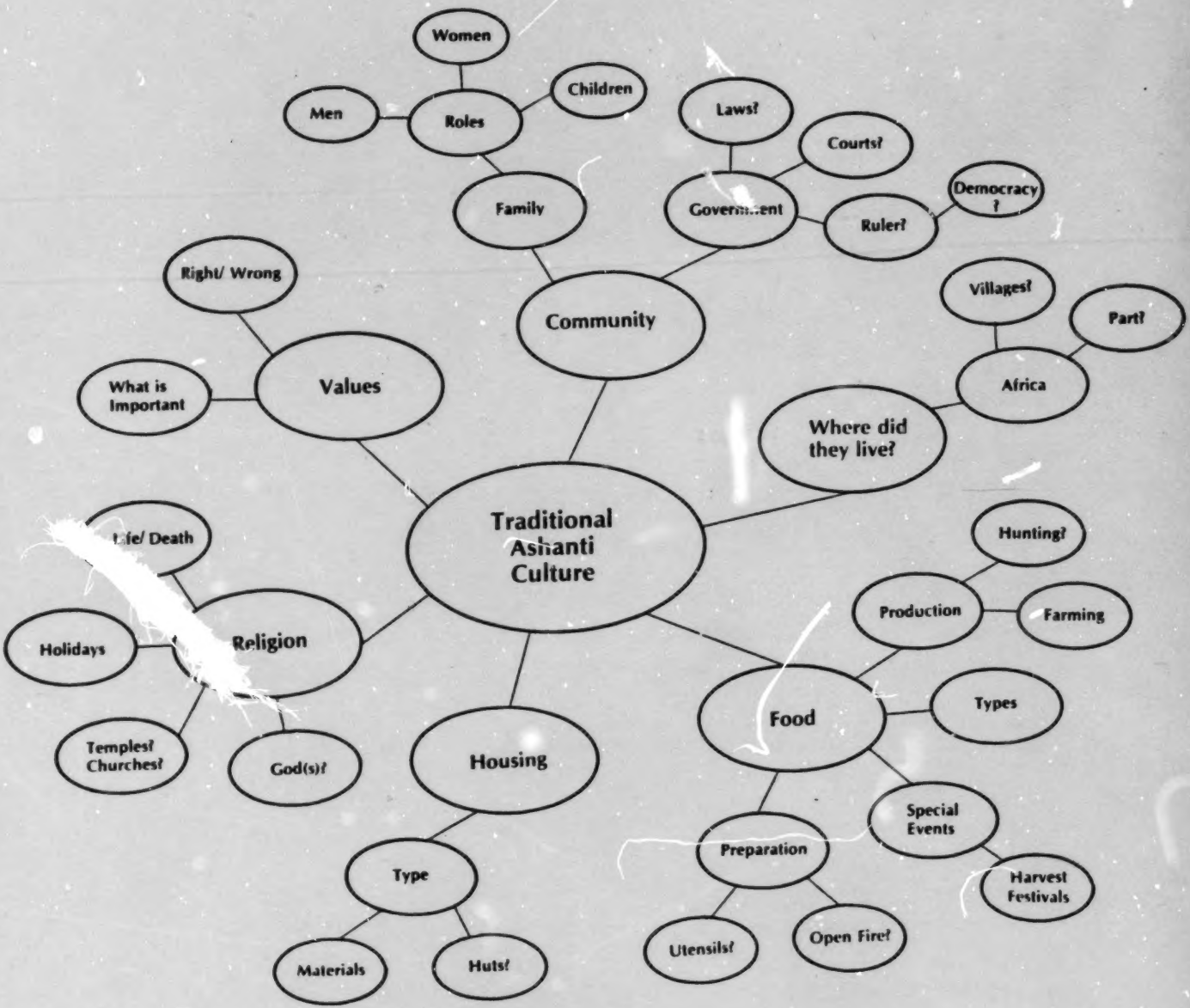

Table #1

Summary of Technocratic and Critical Approaches to Curriculum Design

Characteristic	Technocratic Perspectives/Approach	Critical Perspectives/Approach
Developmental Process	Linear, Sequential	Non-sequential, simultaneous
Knowledge	Organized into specific objectives	Organized around themes
	Compartmentalized	Integrated
	Viewed as consumable object, end-product of educational process	Viewed as catalyst for continued reflection and/or action
	Textbooks, etc. seen as primary source for...	Emphasizes diverse sources of (including personal knowledge)...
	Seen as absolute	Seen as problematic, open to questioning, tied to source
	Pre-determined	Soft-determined
Learning	Primarily stresses memorization	Emphasizes diverse modes of thinking/learning
	Passive, repetitious	Active, variant
Learning Activities	Chosen for efficiency in reaching objectives	Chosen for ability to illuminate themes and stimulate interest/ thoughtfulness among pupils
	Standardized	Unique to each situation
	Mirrors/reproduces industrial work	Promotes communicative, emancipatory interests
Evaluation	Quantitative evaluation of pupils	Subjective, comprehensive evaluation of pupils
	Unit evaluated by pupil performance	Unit evaluated from broad basis including: pupil work, ed./ social principles
	Occurs primarily at end of unit	On-going throughout unit
Teaching	Managerial, technician role	Creator, craftsperson role